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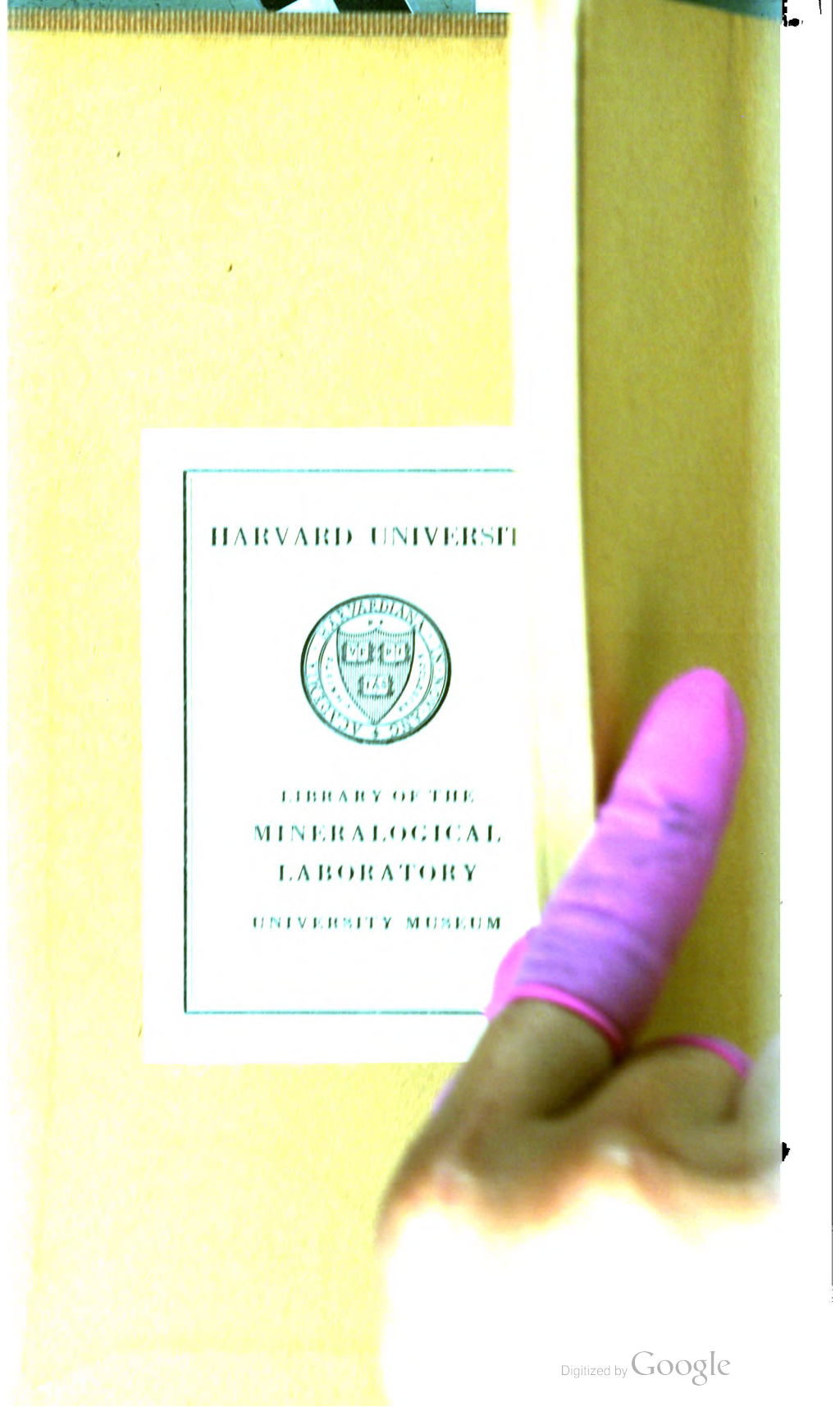
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Bulletin No. 221 Series G, Miscellaneous, 25

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
CHARLES D. WALCOTT, DIRECTOR

BIBLIOGRAPHY AND INDEX

OF

NORTH AMERICAN GEOLOGY, PALEONTOLOGY PETROLOGY, AND MINERALOGY

FOR

THE YEAR 1902

BY

FRED BOUGHTON WEEKS

WASHINGTON
GOVERNMENT PRINTING OFFICE
1903

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LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
UNITED STATES GEOLOGICAL SURVEY,
Washington, D. C., October 20, 1903.

SIR: I have the honor to transmit herewith the manuscript of a bibliography and index of North American geology, paleontology, petrology, and mineralogy for the year 1902, and to request that it be published as a bulletin of the Survey.

Very respectfully,

F. B. WEEKS.

Hon. CHARLES D. WALCOTT,
Director United States Geological Survey.

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BIBLIOGRAPHY AND INDEX OF NORTH AMERICAN GEOLOGY, PALEONTOLOGY, PETROLOGY, AND MINERALOGY FOR THE YEAR 1902.

By Fred Boughton Weeks.

INTRODUCTION.

The arrangement of the material of the Bibliography and Index for 1902 is similar to that adopted for the previous publications (Bulletins Nos. 130, 135, 146, 149, 156, 162, 172, 188, 189, and 203). Several papers that should have been entered in the previous bulletins are here recorded, and the date of publication is given with each entry.

Bibliography.—The bibliography consists of full titles of separate papers, arranged alphabetically by authors' names, an abbreviated reference to the publication in which the paper is printed, and a brief description of the contents. each paper being numbered for index reference.

Index.—The subject headings, their subdivisions and arrangement, are shown in the classified key to the index, which immediately precedes the index. Reference is made in each entry by author's name and number of article in the bibliography.

Mr. John M. Nickles has assisted in the compilation of this work, and credit is due him for its careful preparation and completeness

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See Van Hise (C. R.) and Bain (H. F.), 1061.

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Nebr. St. Hist. Soc., Proc. and Coll., 2d ser., vol. 2, pp. 272–274, pl. v, fig. 3, 1898.

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54 —— Volcanic ash in Nebraska soils.
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58 —— Microscopic examination of sections of rocks associated with the iron ore deposits of the Kingston and Pembroke Railway district.
Can. Geol. Surv., Ann. Rept., new ser., vol. 12, pp. 81I–91I, 1902.

59 —— The Sudbury district [Ontario].
Can. Geol. Surv., Summ. Rept. for 1901, pp. 141–145, 1902.
Describes observations chiefly of a petrological and mineralogical character made in this area.

60 —— On the nepheline rocks of Ice River, British Columbia.
Ottawa Nat., vol. 16, pp. 70–76, 1902.
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Ottawa Nat., vol. 16, pp. 171–177, por., 1902.
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Am. Geol., vol. 29, pp. 143–146, 1 fig., 1902.
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Describes the formation of the caliche, a calcareous formation, and gives its chemical composition and that of well waters.

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Geol. Mag., dec. iv, vol. 9, pp. 199–206, 1902.
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101 —— The Canadian Rockies. Part II: On some rock specimens collected by E. Whymper, esq., F. R. S. E., in the Canadian Rocky Mountains.
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Annales des Mines, 10th ser., vol. 2, pp. 217–258, 1902.
Describes the occurrence, character, and origin of the auriferous gravels of the State.

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104 —— **Villarello** (Juan de D.) and. Criaderos de fierro de la hacienda de Vaquerias, en el estado de Hidalgo.
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Am. Inst. Mg. Engrs., Trans., vol. 31, pp. 572–603, 33 figs. [maps, sections, etc.], 1902.
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Eng. Mag., vol. 23, pp. 831–846, 15 figs., 1902; vol. 24, pp. 64–74, 1 fig., 1902.

117 —— John Wesley Powell.
Am. Jour. Sci., 4th ser., vol. 14, pp. 377–382, 1902.
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118 —— White Horse mining district, Yukon Territory.
Eng. & Mg. Jour., vol. 73, pp. 167–168, 2 figs., 1902.
Describes the general geology of the region and the occurrence of copper and coal.

119 —— M'Kee Creek, Atlin mining division, British Columbia.
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Describes the placers of the region.

120 —— British Columbia coal fields.
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Describes the occurrence of coal in Vancouver Island.

121 —— The Crow's Nest Pass coal fields [Canada].
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122 —— British Columbia, Boundary mining district, progress in mining and smelting.
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Describes the general geology and the occurrence of the gold, silver, and copper ores.

123 —— Alberta Territory, Canada. Coal fields of Crow's Nest Pass Branch of the Canadian Pacific Railway.
Eng. & Mg. Jour., vol. 73, pp. 757–758, 1902.
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124 **Bridge** (Norman). Edward Claypole, the man.
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127 **Brigham** (Albert Perry). A text-book of geology. New York, D. Appleton and Company. 477 pp., 294 figs., 1902.

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129 **Brock** (R. W.). The Boundary Creek district, British Columbia.
Can. Geol. Surv., Summ. Rept. for 1901, pp. 49–67, 1902.
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Can. Mg. Inst., Jour., vol. 5, pp. 265–378, 1902; Can. Mg. Rev., vol. 21, pp. 156–160, 1902.
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132 **Brooks** (Alfred Hulse), assisted by **Richardson** (George B.) and **Collier** (Arthur J.). A reconnaissance of the Cape Nome and adjacent gold fields of Seward Peninsula, Alaska, in 1900.
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133 —— The coal resources of Alaska.
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134 —— Preliminary report on the Ketchikan mining district, Alaska, with an introductory sketch of the geology of southeastern Alaska.
U. S. Geol. Surv., Professional Paper no. 1, 120 pp., 2 pls., 6 figs., 1902.
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136 —— A reconnaissance in the Mt. McKinley region, Alaska.
Abstract: Science, new ser., vol. 16, pp. 985–986, 1902.

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138 **Brower** (Jacob V.). Kakabikansing [Little Falls, Minnesota].
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140 —— Gaspee Point [Rhode Island]: a type of cuspate foreland.
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141 —— The Mississippi River from Cape Girardeau to the head of the passes.
Am. Geog. Soc., Bull., vol. 34, pp. 371–383, figs. 1–8, 1902.
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142 **Brown** (S. S.). A bibliography of works upon the geology and natural resources of West Virginia, from 1764 to 1901.
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144 **Buchan** (J. S.). Some notes on Mount Royal [Quebec].
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145 **Butts** (Charles). Recent structural work in western Pennsylvania.
Abstract: Science, new ser., vol. 15, p. 823, 1902.

146 **Byers** (H. G.). The water resources of Washington. Potable and mineral water.
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149 —— The geological formations of Iowa.
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150 —— Tenth annual report of the State geologist [Iowa].
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Gives a nomenclature of the divisions of the Glacial period and discusses the geologic occurrence of oil and gas.

151 —— Concrete examples from the topography of Howard County, Iowa.
Am. Geol., vol. 30, pp. 375–381, pl. xxvii, 1902.
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152 —— The geology and geological resources of Iowa—the formations and their economical values.
Mines & Minerals, vol. 22, pp. 560–561, 1902.

153 —— [In discussion of paper by T. C. Chamberlin on "The geologic relations of the human relics of Lansing, Kan."]
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Describes topography and geology of the region and occurrence of borax deposits.

157 —— Raleigh Folio—West Virginia.

U. S. Geol. Surv., Geol. Atlas of U. S., Folio no. 77, 1902.

Describes geographic and topographic features, general geologic relations, the character and occurrence of Carboniferous formations and coal beds.

158 —— Masontown-Uniontown Folio—Pennsylvania.

U. S. Geol. Surv., Geol. Atlas of U. S., Folio no. 82, 1902.

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159 —— Recent geological work in Pennsylvania.

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160 —— **White** (David) and. The bituminous coal field of Pennsylvania.

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161 —— **White** (David), and **Haseltine** (Robert M.). The northern Appalachian coal field.

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162 **Carter** (Oscar S. C.). The arid district between the Rio Grande and the Pacific traversed by the engineers of the Mexican Boundary Commission in 1892–94.

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164 **Casey** (Thomas L.). The Jackson outcrops on Red River [Louisiana].

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165 **Chalmers** (Robert). Report on the surface geology shown on the Fredericktown and Andover quarter-sheet maps, New Brunswick.

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275 —— The preservation of muscle-fibres in sharks of the Cleveland shale.
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295 **Dresser** (John A.). A petrographical contribution to the geology of the eastern townships of the Province of Quebec.
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432 **Griffith** (William). The anthracite of the Third Hill Mountain, West Virginia.

Franklin Inst., Jour., vol. 154, pp. 431–439, 1 fig., 1902.

Contains notes on the general geology of the region and the recurrence and character of coal.

433 **Griswold** (W. T.) The Berea Grit oil sand in the Cadiz quadrangle, Ohio.

U. S. Geol. Surv., Bull. no. 198, 43 pp., 1 pl., 1 fig., 1902.

Describes the occurrence of petroleum and the method used in constructing a contour map of the Berea Grit oil sand in this area.

434 **Gulliver** (F. P.) Joint meetings of the Geological Society of America, Section E, and the National Geographic Society.

Science, new ser., vol. 16, pp. 258–268, 1902.

Gives titles and abstracts of papers read at the meeting at Pittsburgh, Pa., July 1 to 3, 1902.

435 **Gwillim** (J. C.) Report on the Atlin mining district, British Columbia.

Can. Geol. Surv., Ann. Rept., new ser., vol. 12, pp. 1B–48B, 5 pls., map, 1902.

Discusses physiographic features, geologic structure and petrology of this area, and character and distribution of the gold-bearing gravels.

436 —— Characteristics of the Atlin gold-field [British Columbia].

Can. Mg. Review, vol. 21, pp. 13–16, 1902.

Describes the general topography and geology of the region and the occurrence of placer gold.

437 —— Glaciation in the Atlin district, British Columbia.

Jour. Geol., vol. 10, pp. 182–185, 1902.

Describes the valleys and local glaciers of the region.

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438 **Hall** (Christopher W.) Exploration for gold in the central States.
Lake Superior Mg. Inst., Proc., pp. 49–60 [1898?].
Discusses occurrences of gold.

439 —— The geology of Minnesota.
Int. Mg. Cong., 4th session, Proc., pp. 165–171, 1901.
Describes the geologic formations of the State and the occurrence of economic minerals in each of them.

440 **Halse** (Edward). Notes on the structure of ore-bearing veins in Mexico.
Am. Inst. Mg. Engrs., Trans., vol. 32, pp. 285–302, figs. 1–26, 1902.

441 —— Gems and precious stones of Mexico.
Am. Inst. Mg. Engrs., Trans., vol. 32, pp. 568–569, 1902.
Contains notes on the occurrence of precious stones in Mexico.

442 **Hamilton** (S. Harbert). [Notes on the geology and physiography of Cuba.]
Phila., Acad. Nat. Sci., Proc., vol. 54, pp. 744–749, 1902.

443 **Harper** (Henry Winston). A contribution to the chemistry of some of the asphalt rocks found in Texas.
Texas Univ. Mineral Surv., Bull. no. 3, pp. 108–129, 2 pls., 1902.
Discusses the nomenclature of asphalt and presents the results of analyses of many samples.

444 **Harper** (Roland M.). Taxodium distichum and related species, with notes on some geological factors influencing their distribution.
Torrey Bot. Club, Bull., vol. 29, pp. 381–399, 1902.
Discusses the influence of certain geologic formations upon the geographic distribution of these plants.

445 —— Notes on the Lafayette and Columbia formations and some of their botanical features.
Science, new ser., vol. 16, pp. 68–70, 1902.
Discusses the use of plants growing in soils derived from these formations in identifying the presence of the latter where surface outcrops are not available.

446 **Harrington** (Bernard J.). George Mercer Dawson.
Can. Rec. Sci., vol. 8, pp. 413–425, por., 1902.
Gives a sketch of Dr. Dawson's life and work.

447 **Harrington** (M. W.). See Winchell (N. H.), 1168.

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448 **Harris** (Gilbert D.). The geology of the Mississippi embayment with special reference to the State of Louisiana.
La. Geol. Surv., pt. 6, pp. 5–39, pls. i–x, figs. 1–7, 1902.
Describes the orographic movements at the close of the Cretaceous, and the character and distribution of the Eocene, Oligocene, Miocene and Quaternary series in the region.

449 —— Subterranean waters of Louisiana.
La. Geol. Surv., pt. 6, pp. 203-252, pls. xlii–xliii, figs. 20–25, 1902.
Describes the character and occurrence of the Cretaceous and Tertiary beds, and gives sections of many well borings and analyses of the waters.

450 —— Oil in Louisiana.
La. Geol. Surv., pt. 6, pp. 265–275, pl. xliv, fig. 27, 1902.
Gives sections and data regarding the horizons of the oil-bearing sands.

451 **Haseltine** (Robert M.). The bituminous coal field of Ohio.
U. S. Geol. Surv., 22d Ann. Rept., pt. 3, pp. 215–226, pl. xiii, 1902.
Describes extent of field, character, composition, occurrence and production of coals.

452 —— **White** (David), **Campbell** (Marius R.) and. The northern Appalachian coal field.
See White (David), Campbell (M. R.), and Haseltine (R. M.), 1120.

453 **Hatcher** (J. B.). On some new and little known fossil vertebrates.
Carnegie Mus., Annals., vol. 1, no. 1, pp. 128–144, pls. i–iv, 1901.

454 —— On the cranial elements and the deciduous and permanent dentitions of Titanotherium.
Carnegie Mus., Annals., vol. 1, no. 2, pp. 256–262, 1 text fig., pls. vii–viii, 1901.

455 —— Sabal rigida; a new species of palm from the Laramie.
Carnegie Mus., Annals., vol. 1, no. 2, pp. 263–264, 1 fig., 1901.

456 —— The Jurassic Dinosaur deposits near Canyon City, Colorado.
Carnegie Mus., Annals., vol. 1, no. 2, pp. 327–341, 1901.
Describes the mode of occurrence of the saurian remains near Canyon City and the geology of the strata in which found.

457 —— A mounted skeleton of Titanotherium dispar Marsh.
Carnegie Mus., Annals., vol. 1, no. 3, pp. 347–355, pls. xvi–xviii, 1902.

458 —— Structure of the fore limb and manus of Brontosaurus.
Carnegie Mus., Annals., vol. 1, no. 3, pp. 356–376, 14 text figs., pls. xix–xx, 1902.

459 —— The genera and species of the Trachodontidæ (Hadrosauridæ, Claosauridæ) Marsh.
Carnegie Mus., Annals., vol. 1, no. 3, pp. 377–386, 1902.

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460 **Hatcher** (J. B.) Oligocene Canidae.
Carnegie Mus., Mem., vol. 1, no. 2, pp. 65–108, 7 text figs., 20 pls., 1902.

461 —— Origin of the Oligocene and Miocene deposits of the Great Plains.
Am. Phil. Soc., Proc., vol. 41, pp. 113–131, 1902.
Discusses the character, distribution, origin and correlation of these strata.

462 —— Discovery of a musk ox skull (Ovibos cavifrons Leidy), in West Virginia, near Steubenville, Ohio.
Science, new ser., vol. 16, pp. 707–709, 1902.

463 —— A correction of Professor Osborn's note entitled "New vertebrates of the Mid-Cretaceous."
Science, new ser., vol. 16, pp. 831–832, 1902.
Contains notes on the locality of species of Ornithominus and the age of the Judith River beds.

464 **Haverstock** (R. S.). Quicksilver.
Mg. & Sci. Press., vol. 84, p. 4, 1902.
Contains general notes on the occurrence and treatment of quicksilver ores, with descriptions of California deposits.

465 **Haworth** (Erasmus). Geology and mining interests of Kansas.
Int. Mg. Cong., 4th session, Proc., pp. 196–200, 1901.
Describes the occurrence of economic minerals in the State.

466 —— Oil and gas in Kansas.
Eng. & Mg. Jour., vol. 73, p. 37, 1902.
Describes the developments in oil and gas in 1901.

467 **Hay** (Oliver Perry). Description of a new species of Baëna (B. hatcheri) from the Laramie beds of Wyoming.
Carnegie Mus., Annals., vol. 1, no. 2, pp. 325–326, pl. xv, 1902.

468 —— Snoutfishes of Kansas.
Abstract: Am. Geol., vol. 29, pp. 192–193, 1902.

469 —— Description of a new species of Cladodus (C. formosus) from the Devonian of Colorado.
Am. Geol., vol. 30, pp. 373–374, fig. 1, 1902.

470 —— Bibliography and catalogue of the fossil vertebrata of North America.
U. S. Geol. Surv., Bull. no. 179, 868 pp., 1902.

471 **Haycock** (Ernest). The geological history of the Gaspereau Valley, Nova Scotia.
Nova Scotian Inst. Sci., Trans., vol. 10, pp. 361–375, pl. vii, 1902.
Discusses the geologic history and structure of this area.

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472 **Haycock** (Ernest). Fossils, possibly Triassic, in glaciated fragments in the bowlder-clay of Kings County, Nova Scotia.
Nova Scotian Inst. Sci., Trans., vol. 10, pp. 376–378, 1902.

473 **Hayes** (Charles Willard), **Vaughan** (T. W.) and **Spencer** (A. C.). Report on a geological reconnaissance of Cuba. Washington, 1901.
123 pp., 29 pls., 17 figs.
Describes the physiography, the general character and distribution of the igneous and sedimentary rocks, the geologic history and occurrence of gold, copper, manganese, iron, asphalts, oil and coal.

474 **Hayes** (Charles Willard). The asphalt deposits of Pike County, Arkansas.
Eng. & Mg. Jour., vol. 74, p. 782, 1902.
Contains notes on the geologic occurrence and gives a section of the strata.

475 —— Rome Folio—Georgia-Alabama.
U. S. Geol. Surv., Geol. Atlas of U. S., Folio no. 78, 1902.
Describes the geographic and topographic features, the general geologic structure, the character and occurrence of Cambrian, Silurian, Devonian, Carboniferous and Neocene (?) strata, and the occurrence of iron, bauxite, slate and limestone.

476 —— The coal fields of the United States.
U. S. Geol. Surv., 22d Ann. Rept., pt. 3, pp. 7–24, pl. i (map), 1902.
Describes character, distribution and geologic occurrence of coal in the United States.

477 —— The southern Appalachian coal field.
U. S. Geol. Surv., 22d Ann. Rept., pt. 3, pp. 227–263, pls. xiii–xv, fig. 26, 1902.
Describes extent, general geologic relations, structure and stratigraphy of the field, the character and occurrence of the coal beds, the composition, properties and production of coal.

478 —— Some facts and theories bearing on the accumulation of petroleum.
Abstract: Science, new ser., vol. 16, p. 1028, 1902.

479 **Hayes** (Seth). The Shaw mastodon: an examination and description of mastodon and accompanying mammalian remains found near Cincinnati, June, 1894.
Ohio State Acad. Sci., 3d Ann. Rept., pp. 37–41, 1 pl. [1895].

480 **Hedburg** (Eric). The Missouri and Arkansas zinc-mines at the close of 1900.
Am. Inst. Mg. Engrs., Trans., vol. 31, pp. 379–404, 5 figs. (map and sections), and discussion pp. 1022–1023, 1902.
Reviews the mining industry of this district, and discusses geologic position and origin of the ores.

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481 **Heine** (R. E.). The water resources of Washington. Water power.
Wash. Geol. Surv., vol. 1, Ann. Rept. for 1901, pp. 308–320, pls. xxx–xxxii, 1902.

482 **Herrick** (C. L.). Applications of geology to economic problems in New Mexico.
Int. Mg. Cong., 4th session, Proc., pp. 61–64, 1901.
Describes some of the geologic features and the occurrence of economic minerals of the region.

483 **Hershey** (Oscar H.). The significance of the term Sierran.
Am. Geol., vol. 29, pp. 88–95, 1902.
Discusses the recent earth movements in the Sierra Nevada region and the use of the terms Ozarkian and Sierran.

484 —— Some crystalline rocks of southern California.
Am. Geol., vol. 29, pp. 273–290, 1902.
Describes the character, occurrence and distribution of probable pre-Paleozoic crystalline granites, schists, etc., and of certain quartzite and limestone strata in this region.

485 —— Some Tertiary formations of southern California.
Am. Geol., vol. 29, pp. 349–372, 1902.
Describes volcanic and sedimentary beds of the region.

486 —— The significance of certain Cretaceous outliers in the Klamath region, California.
Am. Jour. Sci., 4th ser., vol. 14, pp. 33–37, 1902.
Describes the occurrence and character of the Cretaceous sediment and the geological history of this region.

487 —— Boston Mountain physiography.
Jour. Geol., vol. 10, pp. 160–165, 1902.
Discusses topographic development of west central Arkansas and reviews a paper by A. H. Purdue on "Physiography of the Boston Mountain, Arkansas."

488 —— Neocene deposits of the Klamath region, California.
Jour. Geol., vol. 10, pp. 377–392, 1902.
Describes the occurrence of these deposits and the conditions under which they were accumulated.

489 —— The Quaternary of southern California.
Univ. Cal., Dept. Geol., Bull., vol. 3, pp. 1–30, pl. i, 1902.
Describes orographic movements, erosion phenomena and deposits of Quaternary time in this region.

490 —— A supposed early Tertiary peneplain in the Klamath region, California.
Science, new ser., vol. 15, pp. 951–954, 1902.
Discusses the evidences for the ancient peneplain character of the region and the date of formation of the peneplain.

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491 **Herzer** (H.). Psaronius.
Ohio State Acad. Sci., 5th Ann. Rept., pp. 55–58, 1897.
Gives description and critical remarks upon this fossil plant.

492 —— Six new species, including two new genera, of fossil plants.
Ohio State Acad. Sci., 9th Ann. Rept., pp. 22–29, 2 figs., 3 pls., 1901.

493 —— A new fossil sponge from the Coal Measures [Ohio].
Ohio State Acad. Sci., 9th Ann. Rept., pp. 30–31, pl. iv, 1901.

494 —— New fossil plants from the Carboniferous and Devonian.
Ohio State Acad. Sci., 10th Ann. Rept., pp. 40–48, 3 figs., 3 pls., 1902.

495 —— New fossils from the Corniferous, Hamilton and Medina shales.
Ohio State Acad. Sci., 10th Ann. Rept., pp. 49–66, pls. iv–x, 1902.

496 **Hilgard** (E. W.). The debris fans of the arid region in their relation to the water supply.
Abstract: Science, new ser., vol. 15, p. 414, 1902.
Describes the structure of fans at the mouths of canyons and their relations to water supply.

497 **Hill** (Benjamin F.). The Terlingua quicksilver deposits, Brewster County, Texas.
Texas Univ. Mineral Surv., Bull. no. 4, 74 pp., 21 pls., 10 figs., 1902.
Gives a brief account of the physiography, geologic structure and occurrence of the Cretaceous and igneous rocks. Describes the character and occurrence of the quicksilver deposits and associated minerals and discusses the mode of occurrence of the ores.

498 —— See Phillips (W. B.), 853.

499 **Hill** (Robert T.). Geography and geology of the Black and Grand prairies, Texas, with detailed descriptions of the Cretaceous formations and special reference to artesian waters.
U. S. Geol. Surv., 21st Ann. Rept., pt. 7, 666 pp., 71 pls., 80 figs., 1901.
Describes physiographic and drainage features, the character and occurrence of Azoic, Cambrian, Ordovician, Carboniferous, Permo-Triassic and Cretaceous rocks and the conditions and occurrence of artesian waters. The nomenclature, classification, correlation, character and occurrence of the Cretaceous rocks are described in detail, with numerous sections, faunal lists and figures of characteristic fossils and typical exposures, and the geography and conditions of deposition prevailing in Cretaceous times are discussed.

500 —— The geographic and geologic features, and their relation to the mineral products, of Mexico.
Am. Inst. Mg. Engrs., Trans., vol. 32, pp. 163–178, figs. 1–2, 1902.

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501 **Hill** (Robert T.). The Beaumont oil-field with notes on other oil-fields of the Texas region.
Franklin Inst., Jour., vol. 154, pp. 143–156, figs. 1–2, pp. 225–238, 263–281, 1902.
Describes the occurrence and geologic relations of the oil bearing strata of Texas.

502 —— [Report to the National Geographic Society on volcanic disturbances in the West Indies.]
Nat. Geog. Mag., vol. 13, pp. 225–267, 14 figs., 1902.
Contains an account of the author's observations of the phenomena attending the eruptions in 1902.

503 —— The upland placers of La Cienega, Sonora, Mexico.
Eng. & Mg. Jour., vol. 73, pp. 132–134, 7 figs.,1902.
Describes the occurrence of the gold and the method of dry washing.

504 —— The cinnabar deposits of the Big Bend province of Texas.
Eng. & Mg. Jour., vol. 74, pp. 305–307, 4 figs., 1902.
Describes the geologic occurrence of the cinnabar deposits in this area.

505 —— and **Vaughan** (T. Wayland). Austin Folio—Texas.
U. S. Geol. Surv., Geol. Atlas of U. S., Folio no. 76, 1902.
Decribes geographic and topographic features, general geologic relations, the character and occurrence of Cretaceous, Tertiary and Quaternary formations, and the occurrence of economic products.

506 **Hille** (F.). The iron ore deposits of western Ontario and their genesis.
Can. Mg. Inst. Jour., vol. 5, pp. 49–61, 6 pls., 1902.
Describes the geologic and geographic position of the ore deposits and discusses their formation.

507 **Hillebrand** (W. F.). Chemical discussion of analyses of volcanic ejecta from Martinique and St. Vincent.
Nat. Geog. Mag., vol 13, pp. 296–299, 1902.

508 —— The composition of yttrialite, with a criticism of the formula assigned to thalénite.
Am. Jour. Sci., 4th ser., vol. 13, pp. 145–152, 1902.
Discusses Benedicks' formula for thalénite and presents the author's results of the chemical properties of yttrialite.

509 —— and **Penfield** (S. L.). Some additions to the alunite-jarosite group of minerals.
Am. Jour. Sci., 4th ser., vol. 14, pp. 211–220, 1902.
Describes the crystallographic and chemical characters of minerals from Nevada and New Mexico.

510 **Hills** (R. C.). Eocene and earlier beds of the Huerfano Basin, Colorado, and their relation to the Cretaceous.
Abstract: Science, new ser., vol. 15, p. 417, 1902.
Discusses the correlation of these beds.

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511 **Hitchcock** (C. H.). The Mohokea caldera on Hawaii.
Abstract: Science, new ser., vol. 16, p. 260, 1902.

512 **Hobbs** (William Herbert). The old tungsten mine at Trumbull, Conn.
U. S. Geol. Surv., 22d Ann. Rept., pt. 2, pp. 7–22, pls. i–v, fig. 1, 1901.
Describes petrology, geologic structure, and occurrence of ore bodies of this locality.

513 —— Emigrant diamonds in America.
Smithsonian Inst., Ann. Rept. for 1901, pp. 359–366, 2 figs., 3 pls., 1902. Reprinted from Pop. Sci. Monthly, vol. 56, 1899.
Describes the occurrence of diamonds in glacial materials, principally in Wisconsin.

514 —— Still rivers of western Connecticut.
Geol. Soc. Am., Bull., vol. 13, pp. 17–26, pls. i–ii, figs. 1–3, 1901.
Describes the peculiar drainage features of the region and the conditions determining the course of the rivers, and discusses the theories that have been advanced.

515 —— Former extent of the Newark system.
Geol. Soc. Am., Bull., vol. 13, pp. 139–148, figs. 1–5, 1902.
Gives a summary of the views of various geologists regarding this series, and discusses the conditions under which the beds were deposited.

516 —— The mapping of the crystalline schists. Part I. Methods.
Jour. Geol., vol. 10, pp. 780–792, 1 pl., 1 fig., 1902.
Describes methods of studying the occurrence, character and relations of crystalline schists.

517 —— The mapping of the crystalline schists. II. Basal assumptions.
Jour. Geol., vol. 10, pp. 858–890, figs. 1–11, 1902.
Discusses the mechanics of deformation and the criteria for recognizing folds and faults.

518 —— An instance of the action of the ice sheet upon slender projecting rock masses.
Am. Jour. Sci., 4th ser., vol. 14, pp. 399–403, pl. ix, figs. 1–2, 1902.
Describes the glacial phenomena in the Pomperaug Valley (Connecticut).

519 —— A new meteorite from Algoma, Kewaunee County, Wisconsin.
Abstract: Science, new ser., vol. 16, p. 260, 1902.

520 **Hodgdon** (F. W.). [In discussion of paper by J. P. Frizell on "Tidal scour in harbors, etc."]
Assoc. Eng. Soc., Jour., vol. 28, pp. 85–87, 1902.
Contains notes on scour in Boston Harbor.

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Can. Geol. Sur., Ann. Rept., new ser., vol. 12, pp. 1R–64R, 1902.

522 —— On the occurrence of chrompicotite in Canada.
Am. Jour. Sci., 4th ser., vol. 13, pp. 242–243, 1902.
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523 **Hole** (Allen D.), **Moore** (Joseph) and. Concerning well-defined ripple marks in the Hudson River limestone, Richmond, Indiana.
See Moore (J.) and Hole (A. D.), 786.

524 **Hollick** (Arthur). Geological and botanical notes, Cape Cod and Chappaquidick Island, Mass.
N. Y. Bot. Garden, Bull., vol. 2, no. 7, pp. 381–407, pls. xl–xli, fig. 1, 1902.
Describes the general geologic and botanical features of these localities.

525 —— and others. New York City Folio—New York-New Jersey.
See Merrill (F. J. H.), and others, 770.

526 **Holmes** (W. H.). Fossil human remains found near Lansing, Kansas.
Am. Anthrop., new ser., vol. 4, pp. 743–752, pls. xxxi, xxxii, figs. 28, 29, 1902.
Discusses the age of the deposits in which the human remains were found at Lansing, Kansas.

527 **Hopkins** (A. D.). Work of the prehistoric scolytid, Phlœosinus squalidens Scudd.
Can. Geol. Surv., Cont. to Paleont., vol. 2, pt. 2, pp. 91–92, pls. xiv–xv, 1900.

528 **Hopkins** (Thomas C.). Clays and clay industries of Pennsylvania. II. Clays of southeastern Pennsylvania (in part).
Pa. St. Coll., Ann. Rept., 1898–99, Appendix, 76 pp., 5 pls., 1 fig., [1900?].
Describes character and occurrence of clays and their products manufactured in the State.

529 —— Clays and clay industries of Pennsylvania. III. Clays of the Great Valley and South Mountain areas.
Pa. St. Coll., Ann. Rept., 1899–1900, Appendix, 45 pp., [1901?].
Describes character and occurrence of clays and products manufactured from them.

530 —— Fireclays of the Coal Measures, a short discussion of their origin, and the causes of the qualities which render them more or less refractory.
Mines & Minerals, vol. 22, p. 296, 1902.

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531 **Hopkins** (Thomas C.). The Lower Carboniferous area in Indiana.
Abstract: Science, new ser., vol. 15, p. 83, 1902.

532 —— and **Smallwood** (Martin). On some anticlinal folds [Pennsylvania].
Abstract: Science, new ser., vol. 15, p. 89, 1902.

533 **Hovey** (Edmund Otis). The fourteenth annual meeting of the Geological Society of America.
Eng. & Mg. Jour., vol. 73, pp. 101–103, 1902.

534 —— The paleontological collections of the geological department of the American Museum of Natural History.
Jour. Geol., vol. 10, pp. 252–255, 1902.

535 —— Observations on the eruptions of 1902 of La Soufrière, St. Vincent and Mt. Pelée, Martinique.
Am. Jour. Sci., 4th ser., vol. 14, pp. 319–358, pl. viii, figs. 1–18, 1902.
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536 —— The eruptions of La Soufrière, St. Vincent, in May, 1902.
Nat. Geog. Mag., vol. 13, pp. 444–459, 4 figs., 1902.
Describes the author's observations.

537 —— A visit to Martinique and St. Vincent after the great eruptions of May and June, 1902.
Am. Mus., Jour., vol. 2, pp. 57–63, 3 pls., 1902.

538 —— Martinique and St. Vincent; a preliminary report upon the eruptions of 1902.
Am. Mus. Nat. Hist., Bull., vol. 16, pp. 333–372, pls. xxxiii–li (pl. xxxiv, map), 1902.
Describes the phenomena of these eruptions and the extent of the devastation.

539 **Hrdlička** (Aleš). The crania of Trenton, New Jersey, and their bearing upon the antiquity of man in that region.
Am. Mus. Nat. Hist., Bull., vol. 16, pp. 23–62, pls. i–xxii, 3 tables, 1902.
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540 **Hubbard** (Lucius L.) Two new geological cross-sections of Keweenaw Point [Michigan].
Lake Superior Mg. Inst., Proc., vol. 2, pp. 79–96 [1894?].
Describes the geology of this area and gives a section of the strata.

541 —— The relation of the vein at the Central mine, Keweenaw Point, to the Kearsarge conglomerate [Michigan].
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542 **Hubbard** (Lucius L.). Work of the Geological Survey in the Upper Peninsula [Michigan].
Mich. Miner., vol. 3, no. 3, p. 9, 1901.

543 **Hulst** (Nelson P.) The geology of that portion of the Menominee Range, east of the Menominee River [Michigan].
Lake Superior Mg. Inst., Proc. for 1893, pp. 19–28, 2 figs., geol. map [1893?].
Describes the geologic structure and occurrence of ores in this area.

I.

544 —— **Iddings** (Joseph P.), **Cross** (Whitman), **Pirsson** (Louis V.), and **Washington** (Henry S.). A quantitative chemico-mineralogical classification and nomenclature of igneous rocks.
See Cross (W.), Iddings (J. P.), Pirsson (L. V.), and Washington (H. S.), 228.

545 **Ingall** (Elfric Drew). Report on the iron ore deposits along the Kingston and Pembroke Railway in eastern Ontario.
Can. Geol. Surv., Ann. Rept., new ser., vol. 12, pp. 1I–91I, 13 pls., 1902.
Gives a summary of the geology and petrology of the area and describes the character and occurrence of the iron ores.

546 **Irving** (John Duer). Some recently exploited deposits of wolframite in the Black Hills of South Dakota.
Am. Inst. Mg. Engrs., Trans., vol. 31, pp. 683–695, 1 fig. (small geol. map), 1902.
Describes the general geology and occurrence of wolframite in the ore-bearing veins of the region.

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547 **Jaekel** (O.). Bemerkungen über den beinbau der trilobiten.
Zeitsch. d. deutsch. geol. Gesell., vol. 54, pp. 53–55 (of Brief. Mitt.), 1902.
Discusses criticisms by C. E. Beecher of a paper by the author on the structure of trilobites.

548 **Jaggar** (Thomas Augustus). Field notes of a geologist in Martinique and St. Vincent.
Pop. Sci. Mo., vol. 61, pp. 352–368, figs. 1–19, 1902.
Describes recent volcanic phenomena.

549 —— The next eruption of Pelée.
Science, new ser., vol. 16, pp. 871–872, 1902.

550 **Jefferson** (Mark S. W.). Limiting widths of meander belts.
Nat. Geog. Mag., vol. 13, pp. 373–384, 6 figs., 1902.
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551 **Jenney** (Walter P.). The mineral crest.
Eng. & Mg. Jour., vol. 73, pp. 825–826, 1902.
Discusses the occurrence of ore bodies in depth in limestone beneath large masses of barren rock.

552 —— The mineral crest, or the hydrostatic level attained by the ore-depositing solutions, in certain mining districts of the Great Salt Lake Basin.
Mg. & Sci. Press, vol. 85, p. 297, 1902.

553 **Johnson** (Douglas Wilson). Notes of a geological reconnaissance in eastern Valencia County, New Mexico.
Am. Geol., vol. 29, pp. 80–87, pls. ii–iii, 1902.
Describes the general physiographic and geologic features of the region.

554 —— On some Jurassic fossils from Durango, Mexico.
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684 —— Report on the surface geology of Alcona County, Michigan.

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685 —— Glacial formations and drainage features of the Erie and Ohio basins.

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687 **Lindgren** (Waldemar). The gold belt of the Blue Mountains of Oregon.

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688 —— The character and genesis of certain contact deposits.

Am. Inst. Mg. Engrs., Trans., vol. 31, pp. 226–244, 1902.

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689 —— The gold production of North America, its geological derivation and probable future.

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738 **Mathews** (Edward Bennett). The mineral resources of Cecil County [Maryland].
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Describes the general characters of ostracods and of a number of new genera and species.

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753 —— On the skull of Bunælurus, a musteline from the White River Oligocene.
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755 —— A horned rodent from the Colorado Miocene. With a revision of the Mylagauli, beavers and hares of the American Tertiary.
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758 **Mauck** (A. V.), **Cumings** (E. R.) and. A quantitative study of variation in the fossil Brachiopod Platystrophia lynx.
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760 **Meade** (R. K.). The chemical analysis of Portland cement.
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764 —— Notes on the geology of the Klondike.
Abstract: Science, new ser., vol. 15, p. 389, 1902.

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Harriman Alaska expedition, vol. 2, pp. 291–336, ill., 1902.

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Summary of work done.

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N. Y. State Mus., Bull. 56, pp. 3–37, 2 pls. (maps), and a table of formations, 1902.
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1055 —— See Winchell (N. H.), 1168.

1056 **Ussing** (N. V.). Mineralogisk-petrografiske undersoegelser af Groenlandske nefelinsyeniter og beslægtede bjægarter.
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Discusses character, origin and concentration of lead and zinc ores of the upper Mississippi Valley and of the Ozark region of the lower Mississippi Valley.

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1059 —— The training and work of a geologist.
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1063 **Vaughan** (T. Wayland). The locality of the type of Prionastræa vaughani, Gregory.
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1064 —— Bitumen in Cuba.
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1066 —— Earliest Tertiary coral reefs in the Antilles and United States.
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Science, new ser., vol. 16, p. 5–14, 1902.

1068 —— **Hayes** (C. Willard), and **Spencer** (Arthur Coe). Report on a geological reconnaissance of Cuba.
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1069 —— **Hill** (Robert T.) and. Austin Folio—Texas.
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1079 **Walcott** (Charles Doolittle). Outlook of the geologist in America.
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1081 —— Twenty-third Annual Report of the Director of the U. S. Geological Survey to the Secretary of the Interior. 217 pp., 26 pls., 1902.
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Am. Geol., vol. 30, pp. 203–211, pls. iv–ix, 1902; Rochester Acad. Sci., Proc., vol. 4, pp. 67–74, pls. ii–v, 1902.
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1088 —— **Cross** (Whitman), **Iddings** (Joseph P.), **Pirsson** (Louis V.) and. A quantitative chemico-mineralogical classification and nomenclature of igneous rocks.
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1089 **Watson** (Lawrence W.). Prince Edward Island.
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Describes the author's field work in this area.

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Jour. Geol., vol. 10, pp. 186–193, pls. vii–viii, 1902; Denison Univ., Sci. Lab., Bull., vol. 12, pp. 17–24, pls. iv–v, 1902.

1091 —— Copper-bearing rocks of Virginia copper district, Virginia and North Carolina.
Geol. Soc. Am., Bull., vol. 13, pp. 353–376, pls. liv–lvi, 1 fig., 1902.
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1092 —— On the occurrence of uranophane in Georgia.
Am. Jour. Sci., 4th ser., vol. 13, pp. 464–466, 1902; Denison Univ. Sci. Lab., Bull., vol. 12, pp. 25–28, 1902.
Describes its occurrence and chemical character.

1093 —— A preliminary report on a part of the granites and gneisses of Georgia.
Ga. Geol. Surv., Bull. no. 9-A, 367 pp., 32 pls., 1902.
Discusses geological age, mode of occurrence, origin and distribution of granites in Georgia and eastern United States, their chemical and lithologic characteristics, and gives chemical analyses. The geography and physiography of the Georgia portion of the Piedmont Plateau are described.

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1094 **Weatherbe** (D'Arcy). Recent developments with the calyx drill in the Nictaux iron field [Nova Scotia].
Nova Scotian Inst. Sci., Trans., vol. 10, pp. 350–360, pls. v–vi, 1902.
Contains notes on the geology of the area.

1095 **Weed** (Walter Harvey). Geology and ore deposits of the Elkhorn mining district, Jefferson County, Montana.
U. S. Geol. Surv., 22d Ann. Rept., pt. 2, pp. 399–510, pls. xlii–lxi, figs. 72–78, 1901.
Describes history of mining operations in this district, the character and occurrence of igneous and metamorphic rocks and strata of Algonkian, Cambrian, Devonian, Carboniferous and Mesozoic age, and discusses the general geologic structure, relations of the rock masses, the character, occurrence, mode of formation and commercial development of the ore bodies.

1096 —— Influence of country rock on mineral veins.
Am. Inst. Mg. Engrs., Trans., vol. 31, pp. 634–653, 8 figs, 1902.
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1097 —— [In discussion of "The origin of ore deposits."]
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1098 —— Notes on certain mines in the States of Chihuahua, Sinaloa and Sonora, Mexico.
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Contains notes on the geology of these States, and the character and occurrence of the ores.

1099 —— Notes on a section across the Sierra Madre Occidental of Chihuahua and Sinaloa, Mexico.
Am. Inst. Mg. Engrs., Trans., vol. 32, pp. 444–458, 1 pl. (sections), 1902.
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Eng. & Mg. Jour., vol. 74, pp. 80–81, 1902.

1101 —— Contact metamorphic and other ore deposits near igneous contacts.
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1102 —— The Cananea copper deposits, Mexico.
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1103 **Weeks** (Fred Boughton). Gold-bearing quartzites of eastern Nevada.
Abstract: Science, new ser., vol. 15, p. 546, 1902.

1104 —— Bibliography of North American geology, paleontology, petrology, and mineralogy for the years 1892–1900, inclusive.
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U. S. Geol. Surv., Bull. no. 189, 337 pp., 1902.

1106 —— North American geologic formation names: bibliography, synonymy, and distribution.
U. S. Geol. Surv., Bull. no. 191, 448 pp , 1902.

1107 —— Bibliography and index of North American geology, paleontology, petrology and mineralogy for the year 1901.
U. S. Geol. Surv., Bull. no. 203, 144 pp., 1902.

1108 **Weller** (Stuart). The composition, origin and relationship of the Corniferous fauna in the Appalachian province in North America.
Jour. Geol., vol. 10, pp. 423–432, 1902.
Presents a comparative list of Corniferous and Oriskany faunas, describes the distribution and relations of these faunas and discusses the origin of the Corniferous fauna.

1109 —— Crotalocrinus cora (Hall).
Jour. Geol., vol. 10, pp. 532–534, pl. iii, 1902.
Describes material from the Niagara group and gives the synonymy of Crotalocrinus cora.

1110 —— **Kümmel** (Henry B.) and. The rocks of the Green Pond Mountain region.
See Kümmel (H. B.) and Weller (S.), 609.

1111 —— See Stevenson (J. J.), 1001.

1112 **Wells** (H. L.) and **Penfield** (S. L.). On a new occurrence of sperrylite.
Am. Jour. Sci., 4th ser., vol. 13, pp. 95–96, 1902.
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1113 **Wells** (J. Walter). Arsenic in Ontario.
Ont. Bureau Mines, Rept. for 1902, pp. 101–122, pls. ix–xii, 1902.
Describes distribution, manufacture, production and uses of arsenic.

1114 **Wheeler** (George D.). Zinc in Crittenden County, Kentucky.
Eng. & Mg. Jour., vol. 74, pp. 413–414, 3 figs., 1902.

1115 **Whitbeck** (R. H.). The pre-Glacial course of the middle portion of the Genesee River [New York].
Am. Geog. Soc., Bull., vol. 34, pp. 32–44, figs. 1–9, 1902.
Contains notes on the physiography and discusses the evidences regarding the pre-Glacial course of this river.

1116 **White** (David). Description of a fossil Alga from the Chemung of New York with remarks on the genus Haliserites Sternberg.
N. Y. State Mus., Bull. no. 52, pp. 593–605, pls. iii–iv, 1902.
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U. S. Geol. Surv., 22d Ann. Rept., pt. 3, pp. 201–214, 1902.
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1118 —— Stratigraphy versus paleontology in Nova Scotia.
Science, new ser., vol. 16, pp. 232–235, 1902.
Discusses the age and evidences therefor of certain beds in the region of the Bay of Fundy.

1119 —— a **Campbell** (Marius R.). The bituminous coal field of Pennsylvania.
U. S. Geol. Surv., 22d Ann. Rept., pt. 3, pp. 127–200, figs. 21–25, 1902.
Describes extent, geologic structure and development of the field, character, occurrence and productiveness of the coal beds, gives chemical analyses of the coals and discusses their economic value.

1120 —— **Campbell** (Marius R.), and **Haseltine** (Robert M.). The northern Appalachian coal field.
U. S. Geol. Surv., 22d Ann. Rept., pt. 3, pp. 119–226, pls. xi–xii, figs. 20–25, 1902.

1121 —— See Lane (A. C.), 646.

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Int. Mg. Cong., 4th session, Proc., pp. 56–61, 1901.
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1123 —— Geological horizon of the Kanawha black flint.
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Reviews previous investigations of the stratigraphic problems involved in this discussion, presents the author's recent observations, and discusses the relative value of stratigraphic and paleobotanic data.

1124 —— List of fossils from the lower half of the Conemaugh formation near Morgantown, West Virginia, collected in 1870 by Dr. John J. Stevenson and identified by F. B. Meek.
Am. Geol., vol. 30, pp. 211–214, 1902.

1125 —— The geology of the Pittsburgh district.
Abstract: Science, new ser., vol. 16, pp. 258–259, 1902.
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1126 **Whiteaves** (J. F.). On the genus Trimerella, with descriptions of two supposed new species of that genus from the Silurian rocks of Keewatin.
Ottawa Nat., vol. 16, pp. 139–143, pls. ii–iii, 1902.

1127 —— On the genus Panenka, Barrande, with a description of a second species of that genus from the Devonian rocks of Ontario.
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1128 **Whiteaves** (J. F.) Paleontology and zoology.
Can. Geol. Surv., Summ. Rept. for 1901, pp. 251–258, 1902.
Reports upon the paleontological work accomplished by the author's department.

1129 **Whitfield** (Robert Parr). Description of a new form of Myalina from the Coal Measures of Texas.
Am. Mus. Nat. Hist., Bull., vol. 16, pp. 63–66, figs. 1–2, 1902.

1130 —— Observations on and emended description of Heteroceras simplicostatum Whitfield.
Am. Mus. Nat. Hist., Bull., vol. 16, pp. 67–72. pls. xxiii–xxvii. 1902.

1131 —— Description of a new Teredo-like shell from the Laramie group.
Am. Mus. Nat. Hist., Bull., vol. 16, pp. 73–76, pls. xxviii–xxix, fig., 1902.

1132 —— Notice of a new genus of marine algæ, fossil in the Niagara shale.
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1133 **Whitlock** (Herbert P.). Guide to the mineralogic collections of the New York State Museum.
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1134 **Whitney** (Milton). Report on the examination of some soils from Illinois.
Ill. Bd. of World's Fair Commissioners, Rept., pp. 93–114, 1895.

1135 **Wieland** (G. R.). Notes on the Cretaceous turtles, Toxochelys and Archelon, with a classification of the marine Testudinata.
Am. Jour. Sci., 4th ser., vol. 14, pp. 95–108, figs. 1–2, 1902.

1136 **Wilcox** (Walter D.). Recent exploration in the Canadian Rockies.
Nat. Geog. Mag., vol. 13, pp. 151–168, 13 figs., pp. 185–200, 9 figs., 1902.
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1137 **Wilder** (Frank A.). The lignite deposits of North Dakota.
Eng. & Mg. Jour., vol. 74, pp. 674–675, 3 figs., 1902.

1138 —— The lignite coal fields of North Dakota.
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1139 **Wilder** (Frank A.) Geology of Webster County [Iowa].

Iowa Geol. Surv., vol. 12, Ann. Rept. for 1901, pp. 65–191, pls. vii–x, figs. 2–27, geol. map, 1902.

Describes physiographic features and geology of the county, and discusses the origin, geologic and geographic occurrence and utilization of gypsum deposits and other economic products.

1140 **Williams** (Edward H.). Kansas glaciation and its effects on the river system of northern Pennsylvania.

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Discusses drainage modifications produced by the ice of the Glacial period.

1141 **Willard** (Daniel E.). The story of the prairies, or, the landscape geology of North Dakota. Ed. 3, 256 pp., 83 figs., 1902.

Describes the physiography and geology of North Dakota.

1142 **Williams** (Henry Shaler). Fossil faunas and their use in correlating geological formations.

Am. Jour. Sci., 4th ser., vol. 13, pp. 417–432, 1902.

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1143 **Willis** (Bailey). Paleozoic Appalacnia or the history of Maryland during Paleozoic time.

Md. Geol. Surv., vol. 4, pp. 23–93, pls. i–xii, fig. 1, 1902.

Describes action of dynamic forces upon land surfaces and history of orographic movements and geographic changes during Paleozoic time affecting the area in which Maryland is situated.

1144 —— Stratigraphy and structure, Lewis and Livingston ranges, Montana.

Geol. Soc. Am., Bull., vol. 13, pp. 305–352, pls. xlvi–liii (pl. xlviii, map), figs. 1–6, 1902.

Describes the physiography, the occurrence and character of the Algonkian, Carboniferous, Cretaceous and Pleistocene formations and the geologic structure of the region.

1145 —— Structure of the Front Range, northern Rocky Mountains, Montana.

Abstract: Science, new ser., vol. 15, pp. 86–87, 1902.

1146 —— Physiography of the northern Rocky Mountains.

Abstract: Science, new ser., vol. 15, p. 87, 1902.

1147 —— Conditions of overthrust in the northern Rockies

Abstract: Science, new ser., vol. 15, p. 507, 1902.

1148 —— Mountain growths of the Great Plains.

Abstract: Science, new ser., vol. 16, pp. 1028–1029, 1902.

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1149 **Willis** (Bailey) and others. New York City Folio—New York-New Jersey.
See Merrill (F. J. H.) and others, 770.

1150 **Williston** (S. W.). On the hind limb of Protostega.
Am. Jour. Sci., 4th ser., vol. 13, pp. 276–278, fig. 1, 1902.

1151 —— An arrow-head found with bones of Bison occidentalis Lucas in western Kansas.
Am. Geol., vol. 30, pp. 313–315, 1 fig., 1902.
Gives a section of the locality where the bones were found.

1152 —— On the skull of Nyctodactylus, an Upper Cretaceous Pterodactyl.
Jour. Geol., vol. 10, pp. 520–534, pls. i–ii, 1902.
Describes new material from western Kansas.

1153 —— Winged reptiles.
Pop. Sci. Monthly, vol. 60, pp. 314–322, 6 figs., 1902.

1154 —— On the skeleton of Nyctodactylus with restoration.
Am. Jour. Anat., vol. 1, pp. 297–305, 1 fig., 1902.

1155 —— Restoration of Dolichorhyncops osborni, a new Cretaceous plesiosaur.
Kans. Univ., Sci. Bull., vol. 1, pp. 241–244, pl. xi, 1902.

1156 —— Notes on some new or little-known extinct reptiles.
Kans. Univ., Sci. Bull., vol. 1, pp. 247–254, pls. xii–xiii, 1902.

1157 —— On certain homoplastic characters in aquatic air-breathing vertebrates.
Kans. Univ., Sci. Bull., vol. 1, pp. 259–266, 1902.
Discussion mainly of fossil forms.

1158 —— A fossil man from Kansas.
Science, new ser., vol. 16, pp. 195–196, 1902.
Describes occurrence of human remains in loess near Lansing, Kansas.

1159 —— The Laramie Cretaceous of Wyoming.
Science, new ser., vol. 16, pp. 952–953, 1902.
Discusses age of the Laramie deposits of Converse County, Wyoming, and gives notes on the fossils found in them.

1160 **Willmott** (A. B.). The nomenclature of the Lake Superior formations.
Jour. Geol., vol. 10, pp. 67–76, 1902.
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1161 —— **Coleman** (A. P.) and. The Michipicoten iron ranges [Ontario].
See Coleman (A. P.) and Willmott (A. B.), 207.

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1162 **Willmott** (A. B.), **Coleman** (A. P.) and. The Michipicoten iron region [Ontario].
See Coleman (A. P.) and Willmott (A. B.), 208.

1163 **Wilson** (Alfred W. G.). Some recent folds in the Lorraine shales [Ontario].
Can. Rec. Sci., vol. 8, pp. 525–531, 4 pls., fig., 1902.
Describes the occurrence and origin of the local folds.

1164 —— The country west of Nipigon Lake and River [Canada].
Can. Geol. Surv., Summ. Rept. for 1901, pp. 94–103, 1902.
Describes the author's observations upon the geology, topography and economic resources of this region.

1165 **Wilson** (W. J.). Western part of the Abitibi region [Canada].
Can. Geol. Surv., Summ. Rept. for 1901, pp. 115–128, 1902.
Describes the author's observations in this region.

1166 **Winchell** (Horace V.). The ore deposits of Monte Cristo, Washington.
Am. Geol., vol. 30, pp. 113–118, 1902.
Reviews a paper by J. E. Spurr.

1167 **Winchell** (Newton H.). A new iron-bearing horizon in the Keewatin in Minnesota.
Lake Sup. Mg. Inst., Proc., vol. 5, pp. 46–48 [1898?].
Contains notes on the geology and occurrence of ore in this region.

1168 —— Geological atlas with synoptical descriptions [Minnesota].
Minn. Geol. & Nat. Hist. Surv., Final Rept., vol. 6, 88 pls., 1901.

1169 —— Sketch of the iron ores of Minnesota.
Am. Geol., vol. 29, pp. 154–162, 1902; Int. Mg. Cong., 4th session, Proc., pp. 136–140, 1902.
Describes the general geology and the occurrence and origin of the iron ores.

1170 —— The geology of the Mississippi Valley at Little Falls, Minnesota.
Memoirs of Explorations in the Basin of the Mississippi, vol. 5, Kakabikansing, pp. 89–104, 1902.
Describes occurrence and character of strata at this locality and sketches their geological history.

1171 —— Regeneration of clastic feldspar.
Abstract: Science, new ser., vol. 15, p. 85, 1902.

1172 —— The Monthly American Journal of Geology and Natural Science.
Am. Geol., vol. 30, pp. 62–64, 1902.
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1173 **Winchell** (Newton H.). The Sutton Mountain.
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1892	1893	1894	1895	1896	1897	1898	1899
681	543	540	193	198	199	50	250
	682	1025	194	932	491	51	251
		1191	479	933	776	52	781
			541		1188	53	820
			683		1189	175	894
			803			337	996
			804			379	
			1039			438	
			1134			844	
			1192			895	
						1056	
						1167	

1900	1901				
103	4	332	568	715	897
107	7	354	569	720	927
143	16	366	582	721	936
387	17	380	589	741	938
388	41	423	590	742	941
389	42	439	591	743	960
527	44	453	592	744	989
528	64	454	600	745	992
810	69	455	602	751	1009
837	96	456	606	762	1020
845	98	465	637	775	1046
894	132	466	638	783	1057
906	142	473	646	784	1058
926	148	482	647	807	1063
948	236	492	648	814	1082
1019	252	493	660	817	1083
1026	267	499	687	832	1086
1027	269	512	696	858	1095
	270	514	698	860	1122
	271	529	700	882	1168
	321	542	701	884	1182
		567			

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Manganese, Lindgren, 687.
Manganese, O'Harra, 815.
Manganese, Pratt, 865.
Manganese, Spencer, 982.
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Marble, Perkins, 844, 849.
Marble, Pratt, 864, 865.
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Mercury, Aguilera, 14
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Mica, Miller, 779.
Mica, O'Harra, 815.
Mica, Perkins, 849.
Mica, Pratt, 865.
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Monazite, Pratt, 865.
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Natural gas, Nickles, 804.
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Nickel, Aguilera, 14.
Nickel, Miller, 779.
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Petroleum, Hayes, 478.
Petroleum, Laguerenne, 617.
Petroleum, Landes, 643.
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Ruby, Pratt, 865.
Rutile, Merrill, 773.
Salt, Aguilera, 14.
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Salt, Lane, 651, 655.
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Sandstone, Eckel, 322.
Sandstone, Lane, 651.
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Sapphire, Pratt, 865.
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Silver, Lindgren, 687, 690, 691.
Silver, Malcolmson, 731.
Silver, Mendenhall, 762.
Silver, O'Harra, 815.
Silver, Pratt, 865.
Silver, Ransome, 884.
Silver, Weed, 1095.
Slate, Hayes, 475.
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Talc, Miller, 779.
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Albany division, Carboniferous, Texas, Taff, 1007.
Albertan, Quaternary, New Jersey, Salisbury, 930.
Allegheny formation, Carboniferous, Maryland. Included in Coal Measures. Includes Brookville coal, Clarion coal, Clarion sandstone, Ferriferous limestone, Kittanning limestone, Kittanning sandstone, "Split-six" coal, Lower Kittanning coal, Middle Kittanning coal, Upper Kittanning coal, Lower Freeport sandstone, Lower Freeport limestone, Lower Freeport coal, Upper Freeport sandstone, Upper Freeport limestone and Bolivar clay, and Upper Freeport coal, Clark and Martin, 178.
Allegheny formation, Carboniferous, Maryland, Martin, 735.
Allegheny formation, Carboniferous, Pennsylvania, Campbell, 158.
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Alma limestone, Carboniferous, Kansas, Prosser, 877.
Alpena limestone, Devonian, included in Traverse group, Michigan, Grabau, 417.
Alpreston quartzites (Flathead quartzites), Cambrian, Montana, Weed, 1095.
Altyn limestone, Algonkian, Montana, Willis, 1144.
Americus limestone, Carboniferous, Kansas, Prosser, 877.
Anacacho formation, Cretaceous, Texas, Hill, 499.
Anaktoovuk series, Cretaceous, Alaska, Schrader, 942.
Anona chalk, Cretaceous, Texas, Hill, 499.
Antigua formation, West Indies, Spencer, 987.
Antlers sands, Cretaceous, Texas, Hill, 499.
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Antrim, Devonian, Michigan, Lane, 647.
Antrim shales, Devonian, Michigan, Russell, 924.
Appekunny argillite, Algonkian, Montana, Willis, 1144.
Aquia formation, Eocene, Tertiary, Maryland, Shattuck, 955.
Arapahoe formation, Colorado, Lee, 671.
Arbuckle limestone, Cambro-Silurian, Indian Territory, Taff, 1006.
Arcadia clays, Tertiary, Louisiana, Lerch, 682.
Arietina formation, Cretaceous, Texas, Dumble, 309.
Arikaree formation, Tertiary, Wyoming, Nebraska, Adams, 8.
Arkadelphia beds, Cretaceous, Texas, Hill, 499.
Arkansan series, Carboniferous, Arkansas, Keyes, 568.
Arlington diabase, Juratrias, New Jersey, Merrill, 770.
Armuchee chert, Devonian, Georgia, Hayes, 475.
Arundel formation, Cretaceous, Maryland, Clark and Bibbins, 176.
Atoka formation, Carboniferous, Indian Territory, Taff, 1006.
Atwell sand, Devonian, Pennsylvania, Fuller, 395.
Austin chalk, Cretaceous, Texas, Dumble, 309.
Austin chalk, Cretaceous, Texas, Hill, 499.
Austin chalk, Cretaceous, Texas, Hill and Vaughan, 505.
Austin chalk, Cretaceous, Texas, Prather, 861.
Bangor limestone, Carboniferous, Georgia, Hayes, 475.
Barclay limestone, Carboniferous, Kansas, Beede, 76.
Barnegat limestone, Cambro-Silurian, New York, Eckel, 322.
Barstow series, Tertiary, California, Hershey, 485.
Basal limestone, Carboniferous, Texas, Hill, 499.
Batesville sandstone, Carboniferous, Arkansas, Adams, 7.
Bath-reef series, West Indies, Spencer, 987.
Baucari division, Tertiary, Arizona, Dumble, 304.
Beaver limestone, Cambrian, Alabama, Hayes, 475.
Beekmantown, Ordovician, Vermont, Perkins, 850.
Bell shale, included in Traverse group, Devonian, Michigan, Grabau, 417.
Bellevue beds, Ordovician, Ohio and Indiana, Nickles, 805.
Bellvale flags, Devonian, New York, Eckel, 322.
Bellvale flags, Devonian, New Jersey, Kümmel and Weller, 609.
Bennington limestone, Cretaceous, Indian Territory, Taff, 1006.
Benton, Cretaceous, Montana, Willis, 1144.
Benton formation, Cretaceous, North Dakota, Babcock, 40.

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Benton group, Cretaceous, Kansas, Lindgren, 691.
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Benton shales, Jurassic, Colorado, Hatcher, 456.
Berea Grit, Carboniferous, Ohio, Bownocker, 108.
Bergman series, Cretaceous?, Alaska, Schrader, 942.
Bergman series, probably Mesozoic, Alaska, Mendenhall, 763.
Berkeleyan series, California, Lawson and Palache, 666.
Big Injun series, Carboniferous, Ohio, Bownocker, 108.
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Black River limestone, Ordovician, Vermont, Perkins, 850.
Blacktail Deer Creek beds, Tertiary, Douglass, 291.
Blossburg formation, Devonian, Pennsylvania, Fuller, 395.
Boggy formation, Carboniferous, Indian Territory, Taff, 1007.
Boggy shale, Carboniferous, Indian Territory, Taff, 1006.
Boise granite, Archean, Idaho, Russell, 1022.
Bokchito formation, Cretaceous, Indian Territory, Taff, 1006.
Boone formation, Carboniferous, Arkansas, Adams, 7.
Boscabel bowlder beds, Triassic, Virginia, Woodworth, 1179.
Boston group, Carboniferous, Arkansas, Adams, 7.
Bradford schist, Ordovician, Vermont, Richardson, 896.
Brazil formation, Carboniferous, Indiana, Fuller and Ashley, 397.
Brownstown beds, Cretaceous, Texas, Hill, 499.
Brownwood division (Canyon division), Carboniferous, Texas, Hill, 499.
Brule clay, Tertiary, South Dakota, Darton, 246.
Brule formation, Tertiary, Wyoming, Nebraska, Adams, 8.
Buda formation, Cretaceous, Texas, Hill, 499.
Buda limestone, Cretaceous, Texas, Hill and Vaughan, 505.
Burlingame limestone and shale, Carboniferous, Kansas, Prosser, 877.
Burlingame shales, Carboniferous, Kansas, Beede, 76.
Burlington limestone, Carboniferous, Missouri, Adams, 7.
Caddo limestone, Cretaceous, Indian Territory, Taff, 1006.
Calciferous formation, Ordovician, Canada, Ells, 334.
Calhoun shales, Carboniferous, Kansas, Beede, 76.
Campan series, Pliocene, Tertiary, California, Lawson and Palache, 666.
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Caney shale, Carboniferous, Indian Territory, Taff, 1006.
Canyon division, Carboniferous, Texas, Taff, 1007.
Carlile formation, Cretaceous, South Dakota, Darton, 246.
Carmichael clay, Quaternary, Pennsylvania, Campbell, 158.
Cason shale, Upper Silurian, Arkansas, Adams, 7.
Castle conglomerate, Colorado, Lee, 671.
Catskill formation, Devonian, Pennsylvania, Campbell, 158.
Catskill formation, Devonian, Pennsylvania, Fuller, 395, 396.
Cavanal (Cavaniol) group, Carboniferous, Indian Territory and Arkansas, Taff, 1007.
Cedar Creek beds, Tertiary, Colorado, Matthew, 751.
Cemetery limestone, Cambrian, Montana, Weed, 1095.
Chadron formation, Tertiary, Wyoming, Adams, 8.
Chadron sand, Tertiary, South Dakota, Darton, 246.
Charleston sandstone, Carboniferous, West Virginia, Campbell, 157.
Chase stage, Carboniferous, Kansas, Prosser, 877.
Chattanooga shale, Devonian, Georgia, Hayes, 475.
Chazy, Ordovician, Vermont, Perkins, 850.
Chazy formation, Ordovician, Canada, Ells, 334.
Chazy limestone, Ordovician, Canada, Ells, 333.
Chazy shales, Ordovician, Canada, Ells, 333.
Chemung formation, Devonian, Pennsylvania, Fuller, 395.
Cherokee shale, Carboniferous, Kansas, Iowa, Bain, 45.
Cherokee shales, Carboniferous, Missouri, Adams, 7.
Chesapeake formation, Tertiary, Virginia, North Carolina, Darton, 245.
Chickamauga limestone, Silurian, Alabama and Georgia, Hayes, 475.
Chickachoc chert, Carboniferous, Indian Territory, Taff, 1006.
Chico beds, Cretaceous, Oregon, Knowlton, 599.
Chico sandstones, Cretaceous, California, Lawson and Palache, 666.
Chocolate limestone, Carboniferous, Kansas, Beede, 76.
Chouteau formation, Carboniferous, Mississippi Valley region, Keyes, 578.
Chouteau limestones, Carboniferous, Missouri, Adams, 7.
Cincinnati or Hudson group, Silurian, Illinois, Alden, 15.
Cincinnati period, Ordovician, Ohio and Indiana, Nickles, 805.
Cisco division, Carboniferous, Texas, Taff, 1008.
Claiborne, Tertiary, Louisiana, Lerch, 682.

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Claiborne, Lower, Eocene, Tertiary, Louisiana, Veatch, 1072, 1073.
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Clark formation, Carboniferous, West Virginia, Campbell, 157.
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Clear Fork formation, Carboniferous, Texas, Hill, 499.
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Coal Measures, Carboniferous, Ohio, Bownocker, 108.
Coaledo formation, Tertiary, Oregon, Smith, 978.
Cocksfield, Eocene, Tertiary, Louisiana, Veatch, 1073.
Cocksfield beds, included in Eocene, Tertiary, Louisiana, Harris, 448.
Cocksfield Ferry beds, Eocene, Tertiary, Louisiana, Veatch, 1072.
Coldwater shales, Carboniferous, Michigan, Russell, 924.
Coleman division, Carboniferous, Texas, Hill, 499.
Columbia, Pleistocene, Quaternary, Virginia, North Carolina, Darton, 245.
Columbia formation, Tertiary, Louisiana, Clendenin, 198.
Columbia group, Quaternary, Maryland, Shattuck, 953, 955.
Columbia River lava, Tertiary, Oregon, Knowlton, 599.
Colville series, Tertiary, Alaska, Schrader, 942.
Comanche Peak beds, Cretaceous, Texas, Hill, 499.
Comanche Peak limestone, Cretaceous, Texas, Hill and Vaughan, 505.
Comanche series, Cretaceous, Texas, Hill, 499.
Comanche series, Cretaceous, Texas, Hill and Vaughan, 505.
Conasauga formation, Cambrian, Alabama, Hayes, 475.
Conemaugh formation, Carboniferous, Maryland. Included in Coal Measures. Includes Lower Mahoning sandstone, Mahoning limestone, Mahoning coal, Upper Mahoning sandstone, Masontown coal, Lower Cambridge limestone, Buffalo sandstone, Upper Cambridge limestone, Lower red shales, Bakerstown coal, Saltsburg sandstone, Crinoidal coal, Ames or Crinoidal limestone, Elklick coal, Morgantown sandstone, Clarksburg limestone, Franklin or Little Clarksburg coal, Connellsville sandstone, Lower Pittsburg limestone, and Lower Pittsburg coal, Clark and Martin, 178.
Conemaugh formation, Carboniferous, Maryland, Martin, 735.
Conemaugh formation, Carboniferous, Pennsylvania, Campbell, 158.
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Conemaugh formation, Carboniferous, Pennsylvania, White and Campbell, 1119.
Cornwall limestones, Silurian, New York, Eckel, 322.
Corryville beds, Ordovician, Ohio and Indiana, Nickles, 805.
Corsicana beds, Cretaceous. Texas, Hill, 499.
Corwin series, Mesozoic, Alaska, Schrader, 942.
Cottonwood limestone, Carboniferous, Kansas, Beede, 76.
Couchiching rocks, Canada, Coleman, 205.
Council Grove stage, Carboniferous, Kansas, Prosser, 877.
Cow Creek beds, Cretaceous, Texas, Hill, 499.
Crow Ridge series, Mesozoic, Montana, Weed, 1095.
Cumberland sandstone, Ordovician, Kentucky, Foerste, 382.
Dakota, Cretaceous, Montana, Willis, 1134.
Dakota formation, Cretaceous, North Dakota, Babcock, 40.
Dakota sandstone, Cretaceous, South Dakota, Darton, 246.
Dakota sandstones, Jurassic, Colorado, Hatcher, 456.
Decker Ferry limestone, Silurian, New Jersey, Kümmel and Weller, 609.
Deer Creek limestone, Carboniferous, Kansas, Beede, 76.
Del Rio clay, Cretaceous, Texas, Hill and Vaughan, 505.
Del Rio formation, Cretaceous, Texas, Hill, 499.
Denison beds, Cretaceous, Texas, Hill, 499.
Denton subgroup, Cretaceous, Texas, Hill, 499.
Des Moines, Pennsylvanian series, Iowa, Leonard, 680.
Des Moines division, Carboniferous, Kansas, Missouri, Bain, 45.
Des Moines stage, Pennsylvanian series, Carboniferous, Iowa, Wilder, 1139.
Dexter sands, Cretaceous, Texas, Hill, 499.
Ditney formation, Carboniferous, Indiana, Fuller and Ashley, 397.
Doré conglomerate, Huronian, Canada, Coleman and Willmott, 207, 208.
Double Mountain formation, Carboniferous, Texas, Hill, 499.
Dover limestone, Carboniferous, Kansas, Beede, 76.
Doyle shales, Carboniferous, Kansas, Prosser, 877.
Duck Creek formation, Cretaceous, Texas, Hill, 499.
Dundee limestone, Devonian, Michigan, Russell, 924.
Dundee limestone, included in Traverse group, Devonian, Michigan, Grabau, 417.
Dunkard formation, Carboniferous, Pennsylvania, Campbell, 158.
Dunkard formation, Carboniferous, Maryland, Martin, 735.
Dunkard formation, Carboniferous, Pennsylvania, White and Campbell, 1119.

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Dunkard formation, Permian?, Maryland. Includes Waynesburg sandstone, Waynesburg "A" coal, Washington coal, Upper Washington limestone, Jollytown coal, and Jollytown limestone, Clark and Martin, 178.
Eagle Ford formation, Cretaceous, Texas, Dumble, 309.
Eagle Ford formation, Cretaceous, Texas, Hill, 499.
Eagle Ford formation, Cretaceous, Texas, Hill and Vaughan, 505.
Edwards limestone, Cretaceous, Texas, Hill, 499.
Edwards limestone, Cretaceous, Texas, Hill and Vaughan, 505.
Eleanor slates, Huronian, Canada, Coleman and Willmott, 207, 208.
Elkhorn hornstone, Cambrian, Montana, Weed, 1095.
Elmdale formation, Carboniferous, Kansas, Beede, 76.
Elmdale formation, Carboniferous, Kansas, Prosser, 877.
Emporia limestone and shale, Carboniferous, Kansas, Prosser, 877.
Eskridge shales, Carboniferous, Kansas, Beede, 76.
Eskridge shales, Carboniferous, Kansas, Prosser, 877.
Escondido series, Tertiary, California, Hershey, 485.
Fairmount beds, Ordovician, Ohio and Indiana, Nickles, 805.
Fayetteville shale, Carboniferous, Arkansas, Adams, 7.
Fickett series, Carboniferous, Alaska, Schrader, 942.
Florence flint, Carboniferous, Kansas, Prosser, 877.
Floyd shale, Carboniferous, Alabama and Georgia, Hayes, 475.
Fordham gneiss, New York, Eckel, 322.
Fordham gneiss, Pre-Cambrian, New York, Merrill, 770.
Fort Payne chert, Carboniferous, Alabama and Georgia, Hayes, 475.
Fort Riley limestone, Carboniferous, Kansas, Prosser, 877.
Fort Worth formation, Cretaceous, Texas, Hill, 499.
Franciscan series, California, Lawson and Palache, 666.
Fredericksburg division, Cretaceous, Texas, Hill, 499.
Fredericksburg limestone, Cretaceous, Texas, Dumble, 309.
Fredericktown limestone, Cambrian, Missouri, Adams, 7.
Frog Mountain limestone, Devonian, Alabama, Hayes, 475.
Frio clays, Oligocene, Tertiary, Louisiana, Veatch, 1072.
Frio clays, Tertiary, Texas and Louisiana, Fishback, 370.
Fuson formation, Cretaceous, South Dakota, Darton, 246.

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Garrison formation, Carboniferous, Kansas, Prosser, 877.
Gasconade limestone, Ordovician, Missouri, Adams, 7.
Georgetown formation, Cretaceous, Texas, Hill, 499.
Georgetown limestone, Cretaceous, Texas, Hill and Vaughan, 505.
Gerona marble, Cuba, Hayes, Vaughan, and Spencer, 473.
Glen Rose beds, Cretaceous, Texas, Hill, 499.
Glen Rose formation, Cretaceous, Texas, Hill and Vaughan, 505.
Goodland limestone, Cretaceous, Indian Territory, Taff, 1006.
Goodland limestone, Cretaceous, Texas, Hill, 499.
Graneros shale, Cretaceous, South Dakota, Darton, 246.
Granton diabase, Juratrias, New Jersey, Merrill, 770.
Grand Gulf, Oligocene, Tertiary, Louisiana, Veatch, 1072, 1073.
Grand Gulf formation, post-Tertiary, Gulf region, Smith and Aldrich, 970.
Grand Gulf formation, Tertiary, Dall, 238.
Grand Gulf group, Tertiary, Louisiana, Lerch, 682.
Grand Gulf stage, included in Oligocene, Tertiary, Louisiana, Harris, 448.
Gravina series, Mesozoic, Alaska, Brooks, 134.
Graydon sandstone, Carboniferous, Missouri, Adams, 7.
Grayson formation, Cretaceous, Texas, Hill, 499.
Greenbrier formation, Carboniferous, Maryland, Martin, 735.
Greenbrier limestone, Carboniferous, Pennsylvania, Campbell, 158.
Greenhorn limestone, Cretaceous, South Dakota, Darton, 246.
Green Pond conglomerate, Silurian, New Jersey, Kümmel and Weller, 609.
Green Pond conglomerate, Silurian, New York, Eckel, 322.
Grimes sandstones, included in Portage, Devonian, New York, Luther, 711.
Grinnell argillite, Algonkian, Montana, Willis, 1144.
Gros Cap greenstones, Huronian, Canada, Coleman and Willmott, 207, 208.
Guadalupian, Carboniferous, Texas, Girty, 408. Exact synonym Permian.
Gulf series, Cretaceous, Texas, Hill and Vaughan, 505.
Guyandot sandstone, Carboniferous, West Virginia, Campbell, 157.
Hampshire formation, Devonian, Maryland, Martin, 735.
Hannibal sandstone and shales, Carboniferous, Missouri, Adams, 7.
Hardyston quartzite, Cambrian, New Jersey, Kümmel and Weller, 609.
Harrison diorite, post-Hudson, New York, Merrill, 770.

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Hartford (Topeka) limestone, Carboniferous, Kansas, Beede, 76.
Hartshorne sandstone, Carboniferous, Indian Territory, Taff, 1006, 1007.
Harvey conglomerate, Carboniferous, West Virginia, Campbell, 157.
Helen iron formation, Huronian, Canada, Coleman and Willmott, 208.
Hensell sands, Cretaceous, Texas, Hill, 499.
Hinton formation, Carboniferous, West Virginia, Campbell, 157.
Hobo-Gulch lime-shale, Cambrian, Montana, Weed, 1095.
Horsetail Creek beds, Tertiary, Colorado, Matthew, 751.
Horton series, Canada, Fletcher, 376.
Horton slates, Devonian or Carboniferous, Canada, Haycock, 471.
Howard limestone, Carboniferous, Kansas, Beede, 76.
Hudson formation, Ordovician, New York, Eckel, 322.
Hudson River group, Ordovician, New York, Clarke, 189.
Hudson River shale ?, Ordovician, New Jersey, Kümmel and Weller, 609.
Hudson schist, Silurian, New York, Merrill, 770.
Huntington series, Triassic ?, Oregon, Lindgren, 687.
Hunton limestone, Indian Territory, Taff, 1006.
Huronian, Willmott, 1160.
Idaho formation, Tertiary, Idaho, Russell, 923.
Idalia shale, Tertiary, Missouri, Marbut, 733.
Illinois drift, Quaternary, Salisbury, New Jersey, 930.
Illinoisan drift, Quaternary, Leverett, 685.
Iowan, Quaternary, New Jersey, Salisbury, 930.
Iron Mountain porphyry, pre-Cambrian, Missouri, Adams, 7.
Ithaca group, Devonian, New York, Clarke, 189.
Izard limestone, Ordovician, Missouri, Adams, 7.
Jackford sandstone, Silurian, Indian Territory, Taff, 1006.
Jackson, Eocene, Tertiary, Louisiana, Veatch, 1072, 1073.
Jackson stage, included in Eocene, Tertiary, Louisiana, Harris, 448.
Jackson stage, Tertiary, Louisiana, Casey, 164.
Jennings formation, Devonian, Maryland, Martin, 723.
John Day series, Tertiary, Oregon, Knowlton, 598.
Judith River beds, Cretaceous, Hatcher, 463.
Judith River beds, Cretaceous, Stanton, 995.
Kanawha black flint, Carboniferous, West Virginia, White, 1123.
Kanawha formation, Carboniferous, West Virginia, Campbell, 157.

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Kansan, Quaternary, New Jersey, Salisbury, 930.
Kansan or pre-Kansan drift, Quaternary, Leverett, 685.
Kanuti series, probably Paleozoic, Alaska, Mendenhall, 763.
Kanwaka shales, Carboniferous, Kansas, Beede, 76.
Keene limestone, Devonian, Montana, Weed, 1095.
Kemp clay, Cretaceous, Texas, Hill, 499.
Kenai series, probably Tertiary, Alaska, Mendenhall, 763.
Kenai series, Tertiary, Alaska, Schrader, 931.
Keokuk limestone, Mississippian series, Carboniferous, Iowa, Savage, 937.
Ketchikan series, Upper Paleozoic, Alaska, Brooks, 134.
Kiamichi formation, Cretaceous, Indian Territory, Taff, 1006.
Kiamitia clays, Cretaceous, Texas, Hill, 499.
Kigluaik series, Alaska, Brooks, 132.
Kigluaik series, older than Silurian, Alaska, Collier, 209.
Kinderhook formation, Carboniferous, Iowa, Sardeson, 935.
Kinderhook formation, Carboniferous, Mississippi Valley region, Keyes, 578.
King limestone, Carboniferous, Missouri, Adams, 7.
Kittatinny limestone, Cambrian, New Jersey, Kümmel and Weller, 609.
Kiutla argillite, Algonkian, Montana, Willis, 1144.
Knob Lick granite, pre-Cambrian, Missouri, Adams, 7.
Knox dolomite, Silurian, Alabama and Georgia, Hayes, 475.
Knoxville beds, Cretaceous, Oregon, Knowlton, 599.
Knoxville shales, Cretaceous, California, Lawson and Palache, 666.
Koyukuk series, Cretaceous, Alaska, Schrader, 942.
Kugruk group, Silurian or Devonian, Alaska, Collier, 209.
Kuzitrin series, Alaska, Brooks, 132.
Kuzitrin series, older than Silurian, Alaska, Collier, 209.
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Anthonomus eversus n. sp., Scudder, 948.
fossilis n. sp., Scudder, 948.
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diffluens Milne Edwards and Haime (sp.), Lambe, 638.
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mamillare Dale Owen (sp.), Lambe, 638.
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Arthrophycus elegans n. sp., Herzer, 492.
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ohioense n. sp., Herzer, 495.
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Ceratogaulus rhinocerus n. gen. and sp., Matthew, 755.
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canadense Billings (sp.), Lambe, 638.
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attenuatus ? Lyon, Rowley, 429.
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calicina Nicholson, Lambe, 638.
disjuncta Whiteaves, Lambe, 638.
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rugosa Billings (sp.), Lambe, 638.
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Crania ? reversa n. sp., Sardeson, 932.
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imparilis n. sp., Knowlton, 599.
Crepidophyllum Nicholson and Thompson, Lambe, 638.
archiaci Billings (sp.), Lambe, 638.
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coxianus St. John and Worthen, Eastman, 314.
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Cyathophyllum Goldfuss, Lambe, 638.
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anticostiense Billings, Lambe, 638.
articulatum Wahlenberg, Lambe, 638.
athabascense Whiteaves, Lambe, 638.
cæspitosum Goldfuss, Lambe, 638.

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ceratites Goldfuss, Lambe, 638.
coalitum Rominger, Lambe, 638.
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interruptum Billings, Lambe, 638.
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thoroldense n. sp., Lambe, 638.
vermiculare Goldfuss, var. præcursor Frech, Lambe, 638.
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saxatilis n. sp., Matthew, 754.
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Cypricardites descriptus n. sp., Sardeson, 932.
dignus n. sp., Sardeson, 932.
finitimus n. sp., Sardeson, 932.
(Vanuxemia) fragosus n. sp., Sardeson, 932.
Cyrtoceras columbiense n. sp., Herzer, 495.
crescens n. sp., Herzer, 495.
dresbachense n. sp., Sardeson, 933.
? winonicum n. sp., Sardeson, 933.
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Cystiphyllum Lonsdale, Lambe, 638.
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retrorsum n. sp., Herzer, 495.
scyphus n. sp., Herzer, 495.
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Diphyphyllum Lonsdale, Lambe, 638.
arundinaceum Billings, Lambe, 638.
cæspitosum Hall (sp.), Lambe, 638.
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rugosum Milne Edwards and Haime (sp.), Lambe, 638.
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Endoceras consuetum n. sp., Sardeson, 933.
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Eretmocrinus brevis n. sp., Rowley, 915.
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Erismacanthus M'Coy, Eastman, 317.
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Erycus consumptus n. sp., Scudder, 948.
Escasona (??) ingens n. sp., Matthew, 747.
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(?) vetus n. sp., Matthew, 747.
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Eucastor (Leidy) Allen, Matthew, 755.
Eucrotaphus helenæ n. sp., Douglass, 291.
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Favosites cystoides n. sp., Herzer, 495.
seamani n. sp., Greene, 428.
Fenestella binodata n. sp., Condra, 213.
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Hamites (Ptychoceras) æquicostatum Gabb, Anderson, 33.
armatus n. sp., Anderson, 33.
cylindraceus de France, Anderson, 33.
ellipticus n. sp., Anderson, 33.
phœnixensis n. sp., Anderson, 33.
(Ptychoceras) solanoënse n. sp., Anderson, 33.
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Hicoria? oregoniana n. sp., Knowlton, 599.
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Inoceramus adunca n. sp., Anderson, 33.
klamathensis n. sp., Anderson, 33.
Juglans? bendirei n. sp., Knowlton, 599.
crassifolia n. sp., Knowlton, 599.
cryptata n. sp., Knowlton, 599.
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Juniperus hypnoides Heer(?), Hollick, 524.
Lathrobium antiquatum n. sp., Scudder, 948.
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frustum n. sp., Scudder, 948.
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Lepidotus occidentalis Leidy, Lambe, 639.
Leptobolus cfr. linguloides, Matthew, 746.
Leptochœrus Leidy, Matthew, 751.
quadricuspis n. sp., Hatcher, 453.
Leptomeryx Leidy, Matthew, 756.
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Lindigia (?) nodosum n. sp., Anderson, 33.
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dolata n. sp., Sardeson, 933.
(?) lens n. sp., Matthew, 743.
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Lingulella concina n. sp., Matthew, 743.
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girtyi n. sp., Walcott, 1080.
minuta Hall and Whitfield (sp.), Walcott, 1080.
tennesseensis n. sp. Walcott, 1080.
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Lobocrinus dubius n. sp., Rowley, 915.
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(?) insolitus n. sp., Rowley, 915.
Lonsdaleia McCoy, Lambe, 638.
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(Tetragonites) cala (?) (Forbes) Stolicza, Anderson, 33.
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(Tetragonites) jacksonense n. sp., Anderson, 33.
(Gaudryceras) kayei Forbes, Anderson, 33.
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